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FTTH Lessons Learned - Customer Premise

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Customer Premise Topics

- **ONT Placement**
- **UPS & Battery Back-up Placement**
- **Home Networking**
- **Required Work Force**

ONT Placement

- **Pre-Staking Placement Consideration**
 - **Standardize on ONT Housing location**
 - **Outside or inside**
 - Residential/Individual Business location
 - MDU's/ Business Parks
 - Trailer House
 - **Power Meter**
 - Residential Installs 97% of time acceptable
 - NEC Bonding Requirements
 - **Coordinate with Home/business owner**

ONT Placement

- **Pre-Staking Placement Consideration (Cont.)**
 - **National Electric Code**
 - FTTH equipment must be bonded to building ground electrode regardless of distance
 - **Off Premise extensions**
 - Protector needed
 - Distance sensitive
 - **ONT Distance from UPS**
 - Allowed length varies by Vendor (30ft to 100+ft)
 - Coordination of ONT and UPS

ONT Placement

- **Pre-Staking Placement Consideration (Cont.)**
 - **Coordination of ONT and UPS**
 - **OSP Contractor Installs ONT housing and UPS, Telco/Other turn-up of subscribers**
 - **OSP Contractor Installs ONT housing, Telco/Other Installs UPS and turn-up of subscribers**
 - **Telco/Other Installs UPS and ONT housing, OSP contractor places drop and terminates into housing, and Telco/Other turn-up of subscribers**
 - **ONT housing**
 - **Ability to order & ship ONT housing without Electronics**

ONT Placement

- Pre-Staking Placement Consideration (Cont.)



ONT Placement

- Pre-Staking Placement Consideration (Cont.)



UPS and Battery Back-up Placement

- **General Location**

- **Utility Room**
- **Basement or Garage near electric panel**
- **Trailer Houses**
- **Exterior Location**
 - **Requires hardened/outdoor equipment**

UPS and Battery Back-up Placement



Types of Installs

- **Voice and Data only**
 - Use existing twisted pair for POTS
 - Run new Cat 5 to computer
- **RF Video**
 - Use existing twisted pair for POTS
 - Run new Cat 5 to computer
 - Use existing Coax for RF video

Types of Installs Cont.

- **IP Video**
 - **Use existing twisted pair for POTS**
 - **Create an in home network for data and video delivery**

Home Networking

- **IP Video Deployment Options**
 - **New Cabling**
 - **Multimedia over Coax Alliance (MOCA)**
 - **Home Phoneline Network Alliance (HPNA)**
 - **Wireless Ethernet**

Home Networking

- **IP Video Deployment Options**
 - **New Cat 5 Cabling**
 - **Most trouble free option**
 - **Requires Cat 5 cabling to each STB**
 - **Requires Ethernet switch on customer premise**
 - **Some new STBs are multi-stream capable**
 - **Eliminates the need for multiple runs of Cat 5**

Home Networking

- **Required Work Force (Cat 5)**
 - **Typical Crew is 1 or 2 man**
 - **Depends upon installation scope**
 - **Newer homes typically have better access**
 - **Older homes typically require fishing wires**
 - **Number of homes per day**
 - **Crews typically complete 2-4 IP video installations per day**

Home Networking

- **MOCA**

- **Additional electronics required within the home**
 - **Potential requirements for future upgrades and support**
- **Started in 2004**
- **Standards created by Private Group**
- **Works over Coax only**
- **Transmits above 850 MHz**
- **Supported in some ONT's & IP STB**

Home Networking

- **MOCA (Cont.)**
 - **Current Speed 100 Mbps**
 - **Future speed 200 Mbps**
 - **Find Information at www.mocalliance.org**

Home Networking

- **Required Work Force (MOCA)**
 - Typical Crew is 1 man
 - Installer still needs to show customer how to operate the new system
 - Approximate installation time is 1-2 hours

Home Networking

- **HPNA**

- **Additional electronics required within the home**
 - **Potential requirements for future upgrades and support**
- **Introduced in 1998**
- **Originally developed for Phone lines**
- **Become popular with coax**
- **Transmits at 5 – 42 MHz**
- **Supported in some ONT's, IP STB for Coax**

Home Networking

- **HPNA Cont.**
 - **Current speeds 100 Mbps**
 - **Future speed 340 Mbps**
 - **Many product Manufacturers**
 - **Find Information at www.Homepna.org**

Home Networking

- **Required Work Force (HPNA)**
 - Typical Crew is 1 man
 - Installer still needs to show customer how to operate the new system
 - Approximate installation time is 1-2 hours

Home Networking

- **Wireless Ethernet**

- **Additional electronics required within the home**
 - **Potential requirements for future upgrades and support**
- **Typically 802.11n based**
- **Current speed 100 Mbps**
- **Future speed 600+ Mbps**
- **Very few deployments supporting Video**
- **Content providers concerned with Security**
- **One (1) wire from wireless hub required**

Home Networking

- **Required Work Force (Wireless)**
 - Typical Crew is 1 man
 - Installer still needs to show customer how to operate the new system
 - Approximate installation time is 1-2 hours

Scheduling the Installation

- Installations are typically scheduled 2 weeks in advance with the homeowners
 - Customer should be reminded of install 1 day prior
- Installation crews can be used to up sell other services

Other Considerations

- **Telcos should work with home builders to get wiring installed in new homes during construction**
- **MDUs**

Questions ?